

## THE GLARE OF MODERNITY

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The introduction of artificial light forms a distinctive element in the transformation of urban space under modernity. The replacement of scattered and dimly glowing oil lamps with brighter and denser rows of gas lights during the 19th century, and then new forms of much more effective electric lighting introduced from the late 19th century onwards, forms part of a familiar palimpsest of changes in the urban experience. Artificial light, it seems, is just another facet of modernity that has become little more than a mundane feature of everyday life provoking occasional attention through forms of disruption, display, or the incessant advance of new illuminated surfaces designed to capture our fleeting interest.

Yet the idea of the modern city as an “empire of lights,” and its celebration through festivals and illuminated landmarks, obscures a different history of light – where light was exploited as a means of intimidation and control. The gradual introduction of streetlights, for example, cannot be separated from the emergence of modern police forces and their growing presence within the expanding 19th-century metropolis. Historical accounts of lamp smashing in Berlin, Paris, Vienna, and other cities attest to the symbolic significance of these early technologies of surveillance.<sup>1</sup> The presence of urban darkness had an increasingly ambivalent relationship with the modern city since it was perceived as both a source of danger and a form of protection from the prying eyes of the state. There were even fears that better illumination could encourage crime or disorder by making city streets more navigable at night. Although the emergence of street lighting can be placed within the context of the gradual emergence of the liberal subject, and a certain disinterested, routinized, or at least distanced relationship between society, technology, and the modern state, there is a parallel and more sinister story that extends beyond the more familiar confines of capitalist urbanization and the modernization of urban space in Europe and North America.<sup>2</sup>

The first electric arc lights, introduced in the late 19th century, provoked not only astonishment at their apparent conversion of night into day but also alarm on account of their intense and dazzling glare. So powerful were these lights that entire cities such as Detroit and San Jose sought to provide a system of complete illumination from a small number of lamps installed on high metal towers to provide the imposing spectacle of tower lighting. For contemporary observers such as Robert Louis Stevenson, the arc light was a kind of “urban star” that was “obnoxious to the human eye.” “A lamp fit for a nightmare!” wrote Stevenson, “Such a light as this should shine only on murders and public crime, or along the corridors of lunatic asylums, a horror to heighten horror.”<sup>3</sup>

The ability of arc lights—later modified as searchlights—to cast a harsh light over a vast area was also harnessed in wartime as a means to terrorize adversaries, especially by European armies engaged in wars of colonial expansionism, as illustrated by the deliberate illumination of the Egyptian port of Alexandria by the British navy in the 1880s. During the First World War, arc lights were also used for the creation of “artificial moonlight” to facilitate attacks by night and they have been widely deployed in naval warfare to dazzle other ships.

Light has also been instrumental to the geopolitical landscapes of the 20th century with ranks of searchlights scouring the night sky or picking out individual human figures seeking a means of escape. Light has become a weapon that can identify targets and eliminate enemies: it can delineate spaces to be destroyed or lurk as a laser in the landscape. The direct use of lasers as weapons has been a focus of interest since the 1980s, especially by the Pentagon in the wake of Ronald Reagan's "star wars" initiative, with the first successful testing of a "directed energy weapon" in the Persian Gulf in 2014 as part of the so-called "zap wars" phase of laser weapon systems under development for the US Navy.<sup>4</sup> Light has also been routinely deployed as a means of torture through sleep deprivation for the victims of extrajudicial rendition held at the Pentagon's global network of "dark sites."<sup>5</sup>

From the 1970s onwards the problem of excessive light has come into sharper focus as a specific problem referred to as light pollution encompassing a range of concerns such as the loss of the night, the disturbance of circadian rhythms, and the wastage of energy. The increase in illumination has also been accompanied by a reduction in human sleep, not just through phenomena such as light trespass that may foster anxiety or insomnia, but also through the role of light in facilitating a 24-hour society of work and consumption. The use of light to extend the working day, initially in 19th-century factories but later spreading to a wider range of workplaces, has played a role in the production of the "human motor."<sup>6</sup> In his novel *The Rings of Saturn*, for example, W.G. Sebald describes the strange glow of silk-weaving factories at night along with the terrifying machines used to improve human productivity.<sup>7</sup> More recently, the pharmaceutical industry has stepped into the fray to provide the means for artificially regulating diminishing amounts of rest and also helping tired workers to stay awake. The circadian rhythms of the human body have become the focus of cyborgian attempts to reduce the need for "wasteful" corporeal replenishment through sleep.<sup>8</sup> We sleep significantly less than we used to and light forms part of the panoply of digital distractions that seek to replace real dreams with those that have been manufactured for us.

The incessant incandescence of modernity has become even more pervasive in recent decades. Just as arc lights provoked anxiety in the past, the increasingly ubiquitous installation of new, more powerful LED technologies has also provoked disquiet. The world is becoming brighter every year with new satellite images confirming the gradual elimination of darkness and the absorption of the night sky into a murky twilight that extends far beyond cities, industrial installations, and illuminated highways. The perception of lighting systems as a relatively innocuous facet of modernity is being replaced by a multi-faceted set of concerns that extends from the technologies themselves, and their specific emotional or material effects, to the nexus of interests that lie behind these seemingly unstoppable socio-technological entanglements. These new tyrannies of light mark an intensified phase in the inexorable growth of light pollution: light has become an intense focus of concern yet it remains tied into a technological logic that largely eludes political scrutiny. Those few countries such as France and Slovenia that have recently sought to reduce levels of light pollution, and place the question of light in an arena of public contestation, must nonetheless contend with a powerful nexus of interests that are essentially oblivious to a growing range of social, cultural, and ecological concerns. Not for nothing are companies such as Philips, Osram, and GE—which dominate the lighting market—among the most powerful in the world: they have not only sought to aggressively eliminate competition, but also install themselves as part of the malware of modernity.<sup>9</sup> If citizens were to regain control over light it would open up new technological pathways and also reveal political alternatives to the perpetual glare of global capital.

<sup>1</sup> Wolfgang Schivelbusch, *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*, trans. A. Davies (Oxford, New York and Hamburg: Berg Publishers, 1988 [1983]).

<sup>2</sup> For a rich account of the evolving relationship between light and the liberal subject in the 19th century see Chris Otter, *The Victorian Eye: A Political History of Light and Vision in Britain, 1800–1910* (Chicago: University of Chicago Press, 2008).

<sup>3</sup> Cited in Schivelbusch, *Disenchanted Night*, 134.

<sup>4</sup> Mark Thompson, "Zap Wars: US Navy Successfully Tests Laser Weapon in the Persian Gulf," *Time* (10 December 2014).

<sup>5</sup> Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep* (London and New York: Verso, 2014).

<sup>6</sup> Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (Berkeley, CA: University of California Press, 1992).

<sup>7</sup> W.G. Sebald, *The Rings of Saturn*, trans. Michael Hulse (London: Harvill, 1998 [1995]).

<sup>8</sup> See, for example, Crary, *24/7*, and Anson Rabinbach, *The Human Motor*.

<sup>9</sup> Examples include the Phoebus Cartel (1924–1939) formed by General Electric, Osram, Philips, Tungsram, and other manufacturers.

